

Company profile Chriwa Holding

Dear Sir or Madam

We thank you for your interest in our group of companies and we are delighted to present our extensive technology programme to you below.

Under the umbrella of Chriwa Holding, headquartered in Hambühren, Germany, our group of companies develops, plans, and builds tailor-made water treatment, wastewater treatment and swimming pool water treatment plants. As a pioneer in the field of environmental technology renewable energy can be obtained from the production and utilisation of biogas thanks to our extensive expertise.



Chriwa Holding is a globally recognised partner for water, wastewater and recycling technology. We have strong control throughout the entire manufacturing process through our own engineering office, design, vessel construction, pre-assembly, and manufacturing on our premises.

We offer turnkey projects with worldwide assembly, on-site commissioning, process visualisation and operational data acquisition systems for remote maintenance and monitoring.

Our after-sales service, responsible for spare parts, maintenance and remote servicing, provides our customers with permanent support to ensure flawless plant operation. Our comprehensive service also includes the conversion and optimisation of plants.

The strong process engineering expertise that goes into our products in terms of efficiency, durability and savings in operating costs is highly valued by our customers. We have stood for quality and continuity for 50 years now and will continue to be your reliable partner for all matters relating to water and wastewater treatment in the future.

*The Chriwa Group protects the well-being of people,
as pioneers in the treatment of the most valuable commodity on earth:
water*



Chriwa Wasseraufbereitungstechnik GmbH **Water treatment Technology**

We have been supplying complete water treatment plants since 1973. These many years of expertise offer our customers individual and reliable water treatment of different raw water qualities into product waters and process waters optimally adapted to their respective process, as well as ecological processes for water recycling and recovery. We always work in close contact with our customers. Together, we explore all the possibilities of modern and economical water management: from planning to delivery.

Industries / References:

- Waterworks
- Beverage industry: Breweries, mineral water bottlers, soft drink industry, juice producers
- Dairies, dairy products and dairy drinks
- Food and liquid food industry
- Industry in general - process water treatment for:
Metal industry, chemical industry, paper industry, mining industry and other special process plants for water treatment.

Special industrial plants:

- Mobile and containerised industrial plants
- Boiler feed water treatment
- Seawater and brackish water desalination
- Groundwater and soil remediation
- Water recycling and reprocessing
- Surface treatment

We offer services for the entire product spectrum, from pre-cleaning to main filtration and downstream processes in fully automated design. We are familiar with a wide range of processes and can thus realise an optimally coordinated treatment:

Pre-treatment

- Flocculation
- Purification / Sedimentation
- Oxidation

Degassing / Impregnation

- Degassing systems (H₂S, CH₄, etc.)
- High-performance atomisation / gas stripper
- Deacidification
- Gas impregnation

Membrane filtration

- Micro- / ultra- and nanofiltration
- Reverse osmosis

Water / wastewater recycling

- Concentrate water recovery
- Water conservation processes
- Substances recovery

Filtration

- Ion exchange (softening, decarbonisation, full demineralisation)
- Special ion exchange process technologies
- Deacidification
- Deferrisation
- Demanganisation
- Dry filtration

Disinfection processes

- Ozone, chlorine, chlorine dioxide, UV etc.
- Chlorine electrolysis (robust compact system)

Special processes

- Neutralisation
- Lime precipitation
- Ammonium removal / nitrification (oxidation / biological)
- Denitrification
- Removal of arsenic, fluoride, radon, radium, uranium
- Detoxification / Deradiation
- Adsorption / Desorption
- Biological treatment processes

Due to our own fabrication, we can include the following components in our services:

- Filter vessels for water treatment in food quality hygienic quality
 - in stainless steel
 - in steel coated, rubberised, stove enamelled
- Reaction tanks, storage tanks, boiler feed water tanks, agitator tanks
- Sedimentation tanks in container design
- Spray circulation degasser
- Tank repair and overhaul
- Thermal deaerators
- Pipeline and fitting construction made of VA, steel and plastic
- Assembly production according to customer requirements
- Steel constructions
- Processing of metallic materials (steels and stainless steels) of different material classes

Visit our website www.chriwa.de for more information, references and news.



CUSS Chriwa Umwelt-Systemtechnik und Service GmbH
Wastewater treatment - Wastewater recycling - Energy from wastewater

CUSS develops wastewater treatment plants that are tailor-made to meet the needs of its customers. The plant components used, and the services offered provide high quality at an optimal price-performance ratio.

Anaerobic treatment processes enable the utilisation of energy obtained from wastewater and residual materials. This can then either be utilised for the company's own internal supply or fed into the public grid.

New customers as well as long-standing partners place their full trust in CUSS, as the company has been consistently convincing with its holistically tested and mature solutions in the field of wastewater solutions throughout its 35-year company history.

Industries / References:

- Beverage industry: breweries, soft drink industry, juice and tea manufacturers
- Food and liquid food industry
- Meat processing
- Dairies, dairy products and dairy beverages
- Distilleries, wine, sparkling wine and spirits producers
- General industry
- Sewage treatment plants for municipalities

Applications / technologies:

Mechanical and chemical pre-treatment

- Mixing and equalising systems
- Adjustment of pH value and nutrient ratio
- Solids and sand removal
- Oil separator
- Flotation

Aerobic treatment

- Cycle aeration systems with round or rectangular secondary clarifiers
- SBR system
- MBR system
- MBBR biofilm processes
- Trickling filter systems

Sludge treatment

- Sludge dewatering (e.g. by belt filter press, centrifuge, chamber filter press, screw press)
- Sludge thickening / storage

Exhaust air treatment

- Biofilter
- Activated carbon filtration

Anaerobic treatment

- CST reactor
- UASB reactor
- EGSB reactor

Advanced wastewater treatment and water reuse

- Gravel and activated carbon filtration
- Membrane technologies (ultrafiltration, nanofiltration, reverse osmosis)
- Disinfection (e.g. UV lamps, ozone, chlorination)

Energy from biogas treatment and - utilisation

- Biogas production in anaerobic wastewater treatment
- Biogas upgrading (drying, desulphurisation, pressure boosting)
- Gas flares
- Energy utilisation in a boiler / CHP Unit

Visit our website www.cuss.de for more information, references and news.



Pool Water Solutions

AWG Innovative Wasser- und Abwassertechnik GmbH
Swimming pool technology - Pool water treatment

AWG plans, manufactures and supplies complete systems as well as components for pools, water and wastewater treatment, swimming pool technology for municipalities, industries and the private sector in Germany. Our industrial plants ensure the necessary water quality tailormade for your specific needs.

We build plants with a focus on low operating costs and a long service life for cost-efficient operation. Through energy optimisation and rinse water treatment, we can significantly reduce the consumption of electricity, chemicals and water, and thus take a holistic approach to environmental friendliness.

Together we implement measures to make the swimming pool more attractive, e.g. through water attractions, to offer your pool guests added value as well as incentives for further visits.

Industries / References:

- Municipalities
- Schools
- Indoor pools
- Outdoor pools
- Sports pools
- Therapy facilities
- Leisure pools
- Animal pools for parks and zoos
- Hotels
- Wellness centres
- Community pools

Applications / technologies:

- Innovative swimming pool and bathing water technology for indoor and outdoor pools, sports and leisure pools, therapy facilities or sports facilities.
- Water attractions, special solutions for swimming pool activation and modernisation
- Brine water treatment plants
- Well water treatment plants
- Dosing, measuring and control technology
- Electrical instrumentation and control
- Water treatment and water treatment of drinking water, process water, swimming pool water and wastewater
- Rinse water treatment
- Pool water treatment and pool sanitation

- Filter systems (also ultrafiltration, nanofiltration and reverse osmosis)
- Replacement and renewal of filter materials
- Process and mechanical equipment
- VACOM vacuum filters
- Plastic tanks and basin installation parts
- Chlorine electrolysis plant New series (membrane cell and tubular cell)
- Optimisation of operating costs for public pools

Visit our website www.awg-celle.de for more information, references and news.

water matters WE CARE

The quality of our products and services is the most important differentiating feature of our company in national and international markets and an indispensable prerequisite for maintaining our competitiveness.

This includes not only product quality, but also the quality of the organisation and processes - from procurement and production to sales and then customer service. The task of our quality management system is to define necessary structures and uniform processes. It also creates the basis for continuous improvement of our products, processes, and the entire organisation.

For this reason, all three companies of Chriwa Holding are certified according to the quality management system DIN EN ISO 9001:2015 (TÜV-Hessen).

Excerpt from approvals & memberships:

- Conformity of factory production control for load-bearing components and kits for steel structures according to EN 1090-2 (TÜV Nord)
- Welding manufacturer according to Directive 2014/68/EU, Number 3.1 and DIN EN ISO 3834 Part 3 (TÜV Nord)
- Manufacturer of pressure equipment and pipelines in accordance with the regulations AD 2000-Merkblatt HP0 (TÜV Nord)
- Authorisation to restamp materials and products in accordance with the AD 2000 regulations and the Pressure Equipment Directive (TÜV Nord)
- Recognition as a specialised company according to § 62 AwSV (TÜV Nord)
- Certificate of suitability for plastics processing according to DVS 2212-1
- **Quality management DIN EN ISO 9001:2015** (TÜV Hessen)
- Specialist company for electrical and control engineering
- AEO (Authorised Economic Operator) for **customs simplifications** / security


Have we sparked your interest? We would be happy to take the time for a personal discussion. Intensive contact with our customers is important to us to carry out our complex projects without any problems. You can reach us at info@chriwa.de or by telephone via our head office +4950844040 so that we can take up your request and advise you.

With kind regards

Peter Christiansen GmbH & Co. KG

Handwritten signature of Lizi Alexander-Christiansen in blue ink.

Lizi Alexander-Christiansen
General Manager

Handwritten signature of Alejandro Meyer in blue ink.

Alejandro Meyer
Managing Director